

Title (en)

Composite material including alumina-silica short fiber reinforcing material and aluminum alloy matrix metal with moderate copper and magnesium contents.

Title (de)

Verbundwerkstoff mit kurzen Tonerde-Silikatfasern als Verstärkungselement und eine Matrix, bestehend aus einer Aluminiumlegierung mit geringem Kupfer- und Magnesiumgehalt.

Title (fr)

Matériau composite comportant des fibres courtes alumine-silice comme matériau de renforcement et une matrice métallique d'un alliage d'aluminium avec des teneurs en cuivre et en magnésium peu élevées.

Publication

**EP 0235574 A2 19870909 (EN)**

Application

**EP 87101213 A 19870129**

Priority

- JP 1979386 A 19860131
- JP 4649886 A 19860304

Abstract (en)

A composite material is made from alumina-silica type short fibers embedded in a matrix of metal. The matrix metal is an alloy consisting essentially of from approximately 2% to approximately 6% of copper, from approximately 0.5% to approximately 3.5% of magnesium, and remainder substantially aluminum. The short fibers have a composition of from about 35% to about 80% of  $\text{Al}_2\text{O}_3$  and from about 65% to about 20% of  $\text{SiO}_2$  with less than about 10% of other included constituents, and may be either amorphous or crystalline, in the latter case optionally containing a proportion of the mullite crystalline form. The fiber volume proportion of the alumina-silica type short fibers is between approximately 5% and approximately 50%, and may more desirably be between approximately 5% and approximately 40%. If the alumina-silica short fibers are formed from amorphous alumina-silica material, the magnesium content of the aluminum alloy matrix metal may desirably be between approximately 0.5% and approximately 3%. And, in the desirable case that the fiber volume proportion of the alumina-silica type short fibers is between approximately 30% and approximately 40%, then the copper content of the aluminum alloy matrix metal is desired to be between approximately 2% and approximately 5.5%.

IPC 1-7

**C22C 1/09**

IPC 8 full level

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CPC (source: EP US)

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